Title (en)

METHOD FOR DETECTING MISFIRES IN A MULTICYLINDER INTERNAL COMBUSTION ENGINE

Title (de)

VERFAHREN ZUR AUSSETZERERKENNUNG BEI EINEM MEHRZYLINDRIGEN VERBRENNUNGSMOTOR

Title (fr)

PROCEDE DE RECONNAISSANCE DE RATES DANS UN MOTEUR A COMBUSTION INTERNE MULTICYLINDRE

Publication

EP 1250581 B1 20031022 (DE)

Application

EP 01909457 A 20010112

Priority

- DE 0100117 W 20010112
- DE 10001284 A 20000114

Abstract (en)

[origin: DE10001284A1] The invention relates to a method for detecting faults in a multicylinder internal combustion engine comprising at least one first motor control appliance that controls at least the injection and ignition for a first portion of cylinders pertaining to the internal combustion engine. The internal combustion engine also comprises at least one additional motor control appliance that controls the injection and ignition for an additional portion of cylinders. Detection of faults for the first and the additional portion of cylinders is also carried out in said additional motor control appliance. The control appliances use a motor control programme which is interrupted in a phase synchronous manner in relation to the rotational movement of the crankshaft by means of interrupt routines. At least the data that is required for the injection and ignition is processed in said routines. According to the inventive method, detection of faults is based upon the formation and evaluation of crankshaft segment times. The crankshaft goes over an appurtenant angle area pertaining to a segment of a circle during said times. The crankshaft segment times are produced and evaluated in certain interrupt routines. The crankshaft segment times for the additional portion of cylinders are produced and evaluated in the interrupt routines, wherein the ignition thereof is controlled and the crankshaft segment times for the first cylinders are produced and evaluated in certain, additionally produced interrupt routines.

[origin: DE10001284A1] The method involves the formation and evaluation of crankshaft segment times in which the crankshaft covers a circular segment angle area. The ascertainment, storage and evaluation of the crankshaft segment times occurs through generation of ignition interruptions (1,2,3) in the cylinder connected to the control apparatus and through the generation of timewise arithmetical interruptions (4,5) between the ignition interruptions.

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